

Climatological Data for December, 1910.
DISTRICT No. 12, COLUMBIA VALLEY.

EDWARD A. BEALS, District Editor.

GENERAL SUMMARY.

The month of December in this district was favorable for construction work, and the transportation companies suffered little interference from the elements, as there were no very heavy rains or high winds. There were no severe cold spells to injure fall-sown grain, and winter pasturage was much better than it was at the same time a year ago. The snowfall was less than usual in the valleys, and slightly below normal in the mountains.

TEMPERATURE.

The mean temperature, as determined from the records of 213 stations, was 36.5° , which is 1.8° above the district average. The mean temperatures ranged between 48.3° at Toledo, Oreg., and 14.7° at Ovando, Mont., elevation 4,207 feet, with a record for 26 days only. The warmest section was west of the Cascade Mountains, where temperatures averaged 41° and above. In the immediate valleys of the Columbia and its main tributaries mean temperatures of 30° to 40° obtained; and in the higher elevations, especially in western Montana, central and eastern Idaho, and western Wyoming, the mean temperatures were generally below 30° . At points in central and southwestern Oregon and western Wyoming, and in a few localities in central Washington, central-western Montana, and east-central Idaho, mean temperatures were below normal. In Washington, northern, northwestern, and southeastern Oregon, northwestern Montana, and western Idaho, the temperatures averaged considerably above normal, the greatest departure being $+6.8^{\circ}$ at Chesterfield and Idaho Falls, both in Idaho.

There were no marked warm or cold periods, the temperatures being remarkably uniform throughout the month. The highest recorded temperature was 65° at Fairview, Oreg., elevation 142 feet, on the 10th, and the lowest was -14° on the 26th at Afton and Bedford, both in Wyoming, at elevations of 6,200 feet and 5,900 feet, respectively.

PRECIPITATION.

The average precipitation, as determined from the records of 332 stations, was 3 inches, which is 1.39 inch below the average for the district.

The precipitation was quite well distributed throughout the first and third decades. During the second decade no measurable amounts occurred in western Montana, and, with the exception of the 15th and 16th, comparatively little precipitation occurred in Oregon and Washington. In Idaho and western Wyoming very little precipitation occurred from the 13th to the 20th, inclusive. The heaviest precipitation occurred west of the Cascade Mountains in Oregon and Washington, in the Blue Mountains in northeastern Oregon, and in central-western Montana and adjoining portions of northern Idaho. Except along Puget Sound in northwestern Washington, the precipitation was deficient in practically all portions of District No. 12. Excepting in Idaho, where considerable snow fell in the higher mountains, there was a comparatively light December snowfall throughout the district, and less than the usual amount remained on the ground at the close of the month, except in western Montana, where temperatures in the higher elevations were generally below the freezing point, and the heavy November snowfall remained on the ground augmented by the December fall.

The greatest monthly precipitation was 14.89 inches at Musick, Oreg., in the Umpqua drainage basin, and the least was a trace of precipitation at Willow Glen Stock Farm, Mont., in the Missoula Basin. The greatest 24-hour fall was 3.03 inches on the 23d at Bellingham, Wash., in the Puget Sound drainage area.

THE RIVERS.

The rivers in Oregon fell gradually throughout the month. In most cases the highest stage occurred from the 1st to the 5th and the lowest from the 26th to the 31st. The mean stages on the Willamette and Snake were higher than those for November, while on the Columbia they were uniformly lower.

The Columbia River averaged 4.4 feet which is 0.1 foot above the normal for the month, being 0.9 foot above at both The Dalles and Celilo. Compared with the November mean stage the average was 0.5 foot lower.

The Willamette River averaged 6.6 feet which is 0.5 foot below the December normal, being 0.7 foot below at Salem and 0.3 foot below at Portland. The highest stage reported was 20.5 feet at Wilsonville on the 2d.

The Snake River averaged 3.2 feet which is 0.6 foot above normal for December. The highest stage recorded was 5.5 feet at Riparia on the 6th, and the lowest 1.9 foot at Lewiston on the 24th.

Maj. J. F. McIndoe in charge of the river and harbor improvements for the second Portland District, states in his annual report that the Willamette River is now navigable for ordinary river boats to Harrisburg, 152 miles above Portland, while log rafts come from 184 miles up the stream. The McKenzie, Luckiamute, Santiam, and Yamhill Rivers furnish sufficient water to aid in getting out the great spring runs of saw timber. During the past season the river commerce of lumber, hay, grain, fruit, and produce amounted to 519,250 short tons, valued at \$9,295,384. This amount will be greatly increased when the proposed improvements are made at the Oregon City Locks. The State of Oregon has appropriated \$300,000 to be used in this work and the Government will expend a like amount. Through the construction of the jetties at the mouth of the Columbia River there is now an average depth of 25 feet of water over the bar for a width of 8,000 feet, and one principal channel shows an average of $26\frac{1}{2}$ feet for a distance of 1,000 feet in width. It is estimated by the Government engineer that the value of traffic over the bar increased \$3,200,000 in 1910 over the same period of 1909 and \$13,000,000 over the traffic of 1904, when the first records were secured.

MISCELLANEOUS PHENOMENA.

Miscellaneous phenomena were recorded as follows: Hail: Portland, Oreg., on the 8th; Newport, Oreg., and Tatoosh Island, Wash., 30th; and Greenhorn, Oreg., 31st. Sleet: Boise, Idaho, on the 24th; Hermiston, Oreg., 22d; North Bend, Oreg., 30th; Wallowa, Oreg., 24th; and Tatoosh Island, Wash., 8th and 30th. Lunar halos: Greenhorn, Oreg., on the 9th; Summit, Oreg., 7th, 8th, and 14th; Tatoosh Island, Wash., 10th, 13th, and 14th; Port Crescent, Wash., 10th and 13th; Pocatello, Idaho, 15th; Seattle, Wash., 14th; Helena, Mont., 14th and 21st; and Portland, Oreg., 14th and 15th. Solar halos: Boise, Idaho, on the 4th and 6th; Helena, Mont., 5th; North Head, and Tatoosh Island, Wash., 14th.

Maximum wind velocities were recorded as follows: Tatoosh Island, Wash., 62 miles from the south on the 3d; North Head, Wash., 60 miles from the southeast on the 29th; Seattle, Wash., 33 miles from the south on the 29th; Portland, Oreg., 30 miles from the south on the 29th. The prevailing wind direction was southwest.

SNOW IN THE MOUNTAINS AND STAGE OF STREAMS.

The snowfall in the mountains was light as a rule, but nearly all of the heavy November fall remained on the ground, there having been practically no thawing weather at high elevations in the regions of heavy snowfall.

Bitter Root drainage.—There was a heavy November snowfall in the Bitter Root Mountains, very little of which melted at high altitudes during December, and at its close there was more than the usual amount on the ground. The streams were generally lower than usual during the month.

Flathead drainage.—The season's snowfall has been unusually light in the Cabinet and Kootenai Mountains, but as the ground is not frozen under the snow, a large percentage of the moisture will probably penetrate the soil when it melts in the spring. The flow of water in the streams was about normal during December.

Kootenai drainage.—There was nearly a normal snowfall in the Purcell and Cabinet Mountains in this drainage basin. The soil is well filled with moisture from the fall rains, and as a result the stream flow in December was about the same as usual.

Missoula drainage.—The snowfall was normal or above in the Bitter Root and Cœur d'Alene Mountains, but was deficient in the Main Range. There is but little frost in the ground under the snow, and the soil is in good condition to absorb the water from melting snow. A majority of the small streams carried less than the average flow of water, although a few were higher than usual.—*R. F. Young, Section Director, Helena, Mont.*

NOTES.

The board of Army engineers charged with the duty of investigating the various projects of the United States Reclamation Service has reported favorably on the Arrow Rock Dam of the Payette-Boise project, and work on this structure will be begun in a short time. The dam will be built at Arrow Rock, on the Boise River, 25 miles above Boise. It will be approximately 340 feet in height, being one of the highest dams yet built by the Reclamation Service. It will contain about 400,000 cubic yards of masonry, and will store approximately 200,000 acre-feet of water. A power plant will be constructed at the present diversion dam of the project, 8 miles above Boise, for the purpose of developing power to be used in building the dam. A railroad will be constructed from Barberville to the dam site, to be used in hauling material to be used in the dam. A sum amounting to about \$7,000,000 has been set aside by the Reclamation Service with which to complete the various projects in Idaho.—*Edward L. Wells, Section Director, Boise, Idaho.*

TABLE 1.—*Climatological data for December, 1910. District No. 12, Columbia Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.	Prevailing wind direction.	Observers.			
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmeasured.	Number of partly cloudy days.	Number of cloudy days.			
<i>Montana.</i>																			
Anaconda.	Deer Lodge.	5,300	9	27.1	+ 0.9	46	2†	8	11	25	0.25	- 0.49	1.4	18	7	6	...		
Bison Mountain.	Powell.	7,240	1	26.0	- 0.1	46	23	10	10†	28	0.30	- 0.42	0.37	16.0	7	13	4		
Butte.	Silver Bow.	5,716	15	26.0	- 0.1	46	23	10	10†	28	0.30	- 0.42	0.30	3.0	1	17	7		
Columbia Falls.	Flathead.	3,100	16	27.4	...	42	23	10	15†	20	0.48	...	0.34	5.0	5	13	8		
Como.	Ravalli.	2	27.4	...	42	23	10	15†	20	0.48	...	0.34	5.0	5	13	8	10		
Dayton.	Flathead.	2,800	6	27.5	...	46	1	4	11	27	0.22	...	0.10	1.3	3	18	7	6	
East Anaconda.	Deer Lodge.	5,500	5	27.5	...	46	1	4	11	27	0.58	...	0.24	12.5	8	4 ^m	12 ^m		
Fortine.	Lincoln.	2,975	4	29.0	...	44	8	7	15	27 ^m	0.58	...	0.36	2.0	3	11	3	w.	
Hamilton.	Ravalli.	3,375	7	27.6	...	49	23	9	16†	23	0.49	...	0.16	7.3	8	6	14	11	
Hat Creek.	Powell.	6,000	1	29.5	+ 5.6	42	4	5	31	25	0.52	- 1.33	0.26	3.0	9	2	3	26	
Kalispell.	Flathead.	2,965	11	29.5	+ 5.6	42	4	5	31	25	0.32	...	0.20	4.5	2	20	4	7	
Lost Creek.	Deer Lodge.	5,200	1	29.5	+ 5.6	42	4	5	31	25	0.32	...	0.20	4.5	2	20	4	7	
McGinnis Meadows.	Lincoln.	1	29.5	...	42	4	5	31	25	0.32	...	0.20	4.5	2	20	4	7		
Missoula.	Missoula.	3,225	32	25.2	+ 0.7	40	24	2	14†	27	0.27	- 1.16	0.06	1.7	5	...	sw.		
Ophir.	Powell.	8,800	1	27.1	+ 0.9	40	24	2	14†	27	0.24	...	0.12	3.2	4	16	9	w.	
Ovando.	...	4,207	10	14.7	- 6.1	35	23†	- 10	31	41	1.70	- 0.16	0.40	14.7	9	23 ^m	2 ^m		
Philipsburg.	Granite.	5,275	7	26.1	...	46	12	4	15	41	0.26	...	0.20	0.5	2	12 ^m	5 ^m	sw.	
Plains.	Sanders.	2,475	12	29.3	+ 1.0	42	2	12	31	19	0.10	- 0.53	0.10	1.0	1	6	0	25	
Pleasant Valley.	Flathead.	3,500	3	26.0	...	44	6	2	13	31	1.16	...	0.23	6.0	1	24	3	...	
Polson.	...	2,920	2	32.2	...	62	5†	10	20	46	0.60	...	0.60	3.0	1	...	...
St. Ignatius.	Missoula.	2,700	4	30.3	...	49	21	13	19	26	0.32	...	0.12	3.6	4	4	6	21	
St. Regis.	...	2,650	2	28.8	...	43	5	9	14†	30	1.02	...	0.41	8.2	4	0	25	6	
Saitse.	...	3,600	6	28.8	...	42	5	9	14†	30	1.02	...	1.15	28.0	7	9	0	22	
Snowshoe.	Lincoln.	4,500	4	26.6	...	46	13	9	20	25	4.51	...	0.94	32.9	15	6	3	22	
Troy.	...	1,880	14	27.0	...	45	3	...	...	T.	...	...	0.2	0	8	16	7	s.	
Willow Glen Stock Farm.	Deer Lodge.	5,064	1	27.0	...	45	3	...	...	T.	...	...	0.2	0	8	16	7	s.	
<i>Wyoming.</i>																			
Afton.	Uinta.	6,200	8	19.1	- 0.9	45	9	- 14	26	33	0.93	- 0.43	0.20	6.5	9	12	7	12	
Alta.	...	7,000	1	20.2	...	52	1	- 13	26	43	2.11	...	0.80	9.6	11	11	2	sw.	
Bedford.	...	5,900	11	17.5	- 1.3	...	...	- 14	26	36 ^b	1.38	- 0.07	0.45	2.8	9	12	6	w.	
Snake River.	Yellowstone Park.	7,000	4	15.8	...	38	1	- 16	15	46	3.20	...	0.70	36.0	8	11	3	17	
<i>Nevada.</i>																			
San Jacinto.	Elko.	5	30.0	...	57	2	12	26	25	0.44	...	0.20	4.0	4	16	0	15	n.	
<i>Idaho.</i>	Standrod.	6	30.6	...	57	1†	11	17†	27	0.85	...	0.36	3.0	8	11	8	12	sw.	
Albion.	Boxelder.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	T. B. Jones.	
Blackfoot.	Cassia.	9	32.0	...	59	1	12	26 ^b	32	1.01	...	0.69	2.0	5	8	10	13	w.	
Blackfoot Dam.	Bingham.	4,503	15	28.0	+ 4.3	51	1	10	22†	28	0.83	- 0.08	0.35	1.0	5	1	20	10	sw.
Bocks Ranch.	...	2	21.8	...	45	1	- 7	23	37	1.05	...	0.20	13.1	11	11	13	7	nw.	
Bogus Creek.	Elmore.	3,500	1	32.0	...	57	8	19	27	23 ^b	0.61	...	0.69	2.3	9	...	...	...
Boise.	Boise.	4,200	1	34.8	+ 2.6	50	3	22	22	18	1.13	- 0.59	0.69	0.5	11	5	8	18	nw.
Bonne.	Ada.	2,739	26	31.4	...	46	9	11	11	24	2.22	...	0.67	4.0	10	3	11	17	sw.
Bonners Ferry.	Bonner.	1,850	2	31.4	...	46	9	11	11	24	2.22	...	0.77	14.7	8	22	3	6	w.
Boulder Mine.	Boise.	4,800	1	31.4	...	57	8	19	27	23 ^b	0.61	...	0.20	1.2	9	2	13	16	w.
Buhl.	Twin Falls.	3,900	5	33.9	...	47	24	18	22	25	0.61	...	0.42	0.2	7	5	19	19	sw.
Caldwell.	Canyon.	2,372	6	33.9	...	50	3	19	22	23	0.70	...	0.31	1	14	13	4	s.	
Camas.	Fremont.	4,815	2	34.4	...	50	3	19	22	23	0.70	...	0.42	0.2	7	5	19	19	ne.
Cambridge.	Washington.	2,651	14	29.9	+ 3.6	42	17	15	6	21	1.39	- 1.95	0.78	2.5	6	2	17	10	w.
Cedar Creek Dam.	Twin Falls.	5,424	15	27.0	+ 6.8	59	2	0	25	37	0.67	- 0.38	0.23	1.0	6	11	14	6	sw.
Chesterfield.	Ramrock.	2,575	1	35.6	...	47	2	25	31	18	2.19	...	0.41	2.0	2	8	12	11	sw.
Coeur d'Alene.	Kootenai.	2,157	20	35.7	...	45	1	- 11	22	39	1.48	...	0.52	0.0	9	4	11	16	sw.
Cottonwood Creek.	Boise.	4,000	1	35.6	...	47	2	10	22†	34	0.31	...	0.50	14.0	5	4	6	21	s.
Cuddesac.	Nez Perce.	1,520	3	32.7	...	50	11	21	19	23	0.45	...	0.41	2.0	2	8	12	11	sw.
Deary.	Latah.	...	...	...	...	...	...	...	...	...	...	...	0.65	2.0	2	8	10	11	sw.
Dent.	Nez Perce.	1,350	6	35.6	...	47	2	25	31	18	2.19	...	0.52	0.0	9	4	11	16	sw.
Driggs.	Fremont.	6,097	3	19.7	...	45	1	- 11	22	39	1.48	...	0.50	14.0	5	4	6	21	s.
Emmett.	...	2	22.0	...	42	19	0	22†	34	0.31	...	0.31	1	14	13	4	1	s.	
Forney.	Canyon.	2,350	4	34.4	...	50	3	19	22	23	0.70	...	0.42	0.2	7	5	19	19	ne.
Garden Valley.	Lemhi.	3,600	13	20.6	- 0.7	43	2†	- 5	15	35	0.45	...	1.12	0.35	8.5	6	16	2	nw.
Garnet.	Boise.	2,575	4	37.8	+ 3.0	54	6†	22	24	24	0.45	...	0.60	0.0	5	11	12	13	e.
Glenns Ferry.	Elmore.	2,569	3	35.7	...	57	1	16	26	30	1.37	...	0.43	T.	6	17	2	12	nw.
Gooding.	Lincoln.	3,572	2	32.6	...	55	1	12	22	27	1.50	...	0.81	T.	7	11	10	w.	
Grand Forks.	Shoshone.	3,000	2	37.5	...	40	5	6	15	20	1.79	...	0.74	24.7	13	9	1	21	sw.
Grandview.	Owyhee.	2,500	2	35.0	...	49	4†	17	22†	25	1.00	...	0.48	T.	5	2	13	16	nw.
Grimes Pass.	Boise.	5,200	2	36.8	...	52	3	19	22	21	0.97	...	0.63	10.9	12	10	16	5	e.
Gulfey.	Owyhee.	2,381	2	36.8	...	42	1	18	28	27 ^b	1.31	...	0.28	T.	12	7	19	7	n.
Hailey.	...	5,347	7	23.3	...	54	1	11	28	27 ^b	1.31	...	0.44	7.4	7	19	7	5	sw.
Hotspring.	Owyhee.	2,752	5	37.0	...	54	4	20	26	23	1.26	...	0.32	T.	5	6	11	14	sw.
Idaho City.	Boise.	4,000	9	27.0	...	42	2	- 7	15	35	0.45	...	0.15	3.5	6	11	14	6	sw.
Idaho Falls.	Bingham.	4,742	16	29.0	+ 6.8	53	1	12	22	31	0.40	- 0.84	0.10	1.0	7	9	6	10	ne.
Indian Valley.	Washington.	2,999	1	26.2	...	42	1	8	22	22	3.52	...	0.80	33.8	12	13	9	9	e.
Irwin.	Bingham.	6,500	2	32.2	...	46	26	19	26	24	2.27	...	0.37	7.1	13	1	0	30	sw.
Kellogg.	Shoshone.	2,305	6	32.2	...	46	26	19	26	24	3.00	...	2.00	5.0	5	11	8	12	w.
Kirkham.	Boise.	1	32.2	...	46	26	19	26	24	3.00	...	2.00	5.0	5	11	8	12	w.	
Kooska.	Idaho.	1,261	1	32.2	...	46	26	19	26	24									

TABLE 1.—Climatological data for December, 1910. District No. 12—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Number of partly cloudy days.	Number of clear days.	Sky.	Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmetted.	Number of rainy days.					
<i>Idaho—Continued.</i>																				
Pine.	Elmore	4,100	1								1.87	0.67	11.5	5	11	11	9	se.	Mrs. Jennie Potter.	
Pleasant Valley	Ada	3,000	3	33.6		50	5	18	22	20	1.14	0.58	T.	7	7	5	19	se.	C. E. Friedrich.	
Pocatello	Bannock	4,483	11	31.4	+ 3.0	51	1	16	27	25	1.20	+ 0.34	0.40	1.0	10	6	12	se.	U. S. Weather Bureau.	
Pocatello Nursery	do.	5,396	3																C. M. Lawrence.	
Poplar	Bingham																		H. A. French.	
Foothill	Bonner	1,665	22	32.2	+ 3.5	43	9†	18	20†	21	1.58	- 1.10	0.39	6.5	8	7	2	22	Mrs. Mary French.	
Powers Ranch	Boise	4,300	1								2.79	0.90	7.0	11	21	0	10		Richard Green.	
Pyle Creek	do.	3,100	1																Idaho Irrigation Co.	
Rattlesnake Creek	Elmore	4,000	1																D. B. Hartwell.	
Richfield	Lincoln			30.2		51	1	10	25	27	2.30	0.64	4.2	9	10	10	11	nw.	O. A. Hatter.	
Roseworth	Twin Falls																		Will Parry.	
Ruby Creek	Boise	4,400	1															J. S. Turnbull.		
Rupert	Lincoln	4,204	4	31.1		54	1	9	25	27	0.76		3.86	1.06	11.8	11	4	w.	E. K. Abbott.	
St. Maries	Kootenai	2,263	14																Arch M. Gilbert.	
Salmon	Lemhi	4,040	5	14.8		42	4	-12	18	32	0.55		0.34	7.4	5	9	11	n.	E. H. Edgerton.	
Salmon River Dam	Twin Falls	3	33.0			63	1	13	26	31	1.22		0.68	1.3	10	10	7	14	Clifford M. Gardner.	
Sandpoint	Bonneville	2,086		33.0		47	29	22	10†	18	3.04		0.48	3.0	8	2	5	24	O. A. Truman.	
Sheep Hill	Boise	5,000	2																A. D. Bradwell.	
Shoshone	Lincoln	3,968	3	31.5		50	1	12	22†	22†	1.13		0.77	12.7	11				Wm. W. Newell.	
Silver City	Owyhee	6,280	3																T. D. Crittenden.	
Smith Prairie	Elmore	5,200	1																J. E. Miner.	
Smith Ranger Station	Bonner	1,080	2																Mrs. W. A. Edwards.	
Soldier Creek	Blaine			24.0		44	2	1	26	36	1.29		0.50	4.5	5	15	12	w.	Utah-Idaho Sugar Co.	
Springfield	Bingham	4,420	2	29.2		53	1	7	25	31	0.98		0.47	1.5	5	6	15	10	E. A. Wilmot.	
Sugar	Fremont			4	25.2	44	2	9	30	30	1.07		0.40	2.5	6	13	7	11	Mrs. Verna Paddock.	
Sunnyside	Elmore			33.5		51	1	17	22	24	1.09		0.45	T.	5				J. A. Waters.	
Tripod Mountain	Boise	4,300									1.00		0.35	3.6	7	9	12	10	A. M. Slater.	
Twin Falls	Twin Falls	3,825	6	32.2		56	1	15	25†	28	1.13		0.59	4.4	7	12	16	3	U. S. Weather Bureau.	
Vernon	Fremont	13	23.6	+ 2.6		47	1	2	25	26	1.08	- 0.06	0.40	11.1	9	10	8	13	Chas. L. Dingler.	
Wallace	Shoshone	2,728	3	31.1		42	2	17	15	21	2.14		0.87	16						
Wendell	Lincoln	3,400	3	33.3		55	1	14	26	27	1.39		0.48	6	9	10	12	w.		
Aberdeen	Chehalis	162	19	41.9	+ 0.9	54	2†	30	11†	21	12.22	- 1.71	1.29	0.0	22	0	22	9		C. S. Weatherwax.
Anacortes	Skagit	60	16	42.0		57	9	30	11	20	4.66	+ 0.88	0.66	T.	21	2	20	9		Douglas Almond.
Baker	do.	200	4	40.3		54	17†	30	10†	23	11.60		2.03	4.4	18	9	0	22		Robt. M. White.
Bellingham	Whatcom	60	15	43.7	+ 1.8	60	1	26	31	26	7.35	+ 3.14	3.03	0.0	17	8	5	18		Sanford B. Mayhew.
Blaine	do.	57	13	40.6	+ 3.8	53	1	27	31	17	8.04	+ 1.97	2.60	3.0	22	3	17	11		John W. Sheets.
Blewett	Chelan	2,200																	John Burmeister.	
Bremerton	Kitsap	30																	U. S. Navy Yard.	
Brewster	Okanogan	1,620	33.4		38	6†	15	25	15	1.19		0.34	4.5	7	5	4	22		Mrs. H. F. Bertram.	
Bumping Lake	Yakima	3,400																	U. S. Reclamation Service.	
Cashmere	Chelan	960																	Valley Power Co.	
Cedar River	King	535	3																Geo. Landsburg.	
Centralia	Lewis	212	17	41.9	+ 1.2	55	2	28	20	22	6.04		1.20	0.0	12	9	2	20	I. S. Turner.	
Cheney	Spokane	2,351	11	31.8		55	13	19	31	29	6.90	- 1.22	0.74	T.	21	2	14	15	J. E. Buchanan.	
Cle Elum	Kittitas	1,930	11	31.6	+ 1.1	43	9†	14	17	17	2.54	- 1.77	0.56	21.0	14	6	6	19	J. A. Balmer.	
Clearbrook	Whatcom	140	7	38.8		51	8	23	31	23	9.71		2.00	0.0	19	3	4	24	Geo. Gibbs.	
Clearwater	Jefferson	135	14																	
Colfax	Whitman	2,300	21																W. H. James.	
Colville	Stevens	1,635	10	31.5	+ 4.4	48	7	13	28	22	2.04	+ 0.18	0.32	8.0	11	3	3	25	sw.	
Conconully	Okanagan	2,300	10	27.9	+ 1.8	39	1†	12	25†	23	1.33	- 0.84	0.25	5.5	8	4	19		U. S. Reclamation Service.	
Cowiche	Yakima	1,874																	Wm. Barnes.	
Crescent	Lincoln	2,250	10	30.0	+ 1.0	43	5	13	25	14	1.49	- 0.80	0.34	4.0	9	10	2	19		
Davenport	do.	2,450	1	29.8		42	5	13	25	18	1.12		0.27	1.0	8	6	4	21		Otto Wollweber.
Dayton	Columbia	1,700	24	36.6	+ 2.4	56	9	26	20†	22	1.26	- 1.88	0.52	2.0	2	8	21		W. H. Reed.	
Detroit	Mason	30	2	41.4		57	2	26	31	20	7.58		1.08	0.0	16	4	9	18		W. W. Hendon.
Dixie	Walla Walla	5,000	1																Walter O. Eckert.	
Durkabush	Jefferson	380	2	38.8		54	1	25	31	21	11.91		0.82	17.5	12	5	4	22		T. Z. Andrews.
Eastsound	San Juan	500	15	42.6	+ 1.6	53	4	28	10†	20†	6.85	+ 2.09	0.47	T.	5	6	5	4		B. G. Newman.
Ellensburg	Kittitas	1,571	22	30.8	+ 2.7	46	28	10	25	29	1.08	- 0.41	0.47	6.4	5	3	8	20	B. E. Harrison.	
Ephrata	Grant	1,265	7	34.4	54†	5	11	25	27					11					R. Lee Barnes.	
Forks	Clallam	480	1															T. J. Cook.		
Fort Simcoe	Yakima	1,427	16																Dr. F. H. Monk.	
Goat Lake	Snohomish	2,900	1																C. M. Mackintosh.	
Gold Creek	Yakima	2,600	1																John W. Anderson.	
Gold Hill	do.																		U. S. Reclamation Service.	
Goldendale	Klickitat	1,600	4	34.8		50	7	18	18	16	1.86		0.38	3.0	10	2	13	16		Klickitat Co. Abstract Co.
Granite Falls	Snohomish	397	7								8.43		1.12	T.	21	4	6	21		C. H. Cleaver.
Guler	Klickitat	2,200																	Frank Kuehnel.	
Hatton	Adams	1,100	5	34.1		50	4	17	25	23	0.66		0.17	2.2	8	5	3	23		Dr. A. V. Marion.
Huntsville	Columbia	1,420	2																Mrs. S. J. Hill.	
Irene Mountain	Okanogan	3,015	1																Mrs. Maude Shain.	
Kachess Valley	Kittitas	367	15	39.0	+ 2.4	55	6	23	25	24	0.68	- 0.38	0.25	T.	5				U. S. Reclamation Service.	
Kennewick	Benton	1,265	1	32.4		45	10	15	31	16	2.67		0.45	12.0	14	4	26		Mrs. L. W. Soth.	
Kettle Falls	Benton	430	5	38.0		54	5	32	10	22	0.57		0.22	0.5	5	10	7	14		Harry H. Cole.
Klona	Benton	775	4	30.6		52	1†	21	12	29	6.29		0.83	1.5	23	10	9	12		Dr. F. S. Hedger.
Kosmos	Le Center	250	13	39.1	- 0.6	54	2	24	14†	27	4.73	- 3.60	0.74	T.	16	4	6	21		J. A. Ulsh.
La Center	Clarke	1,400	1	36.2		52	2†	24	22†	21	1.34		0.30	4.5	11	4				

TABLE 1.—Climatological data for December, 1910. District No. 12—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.			
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmeted.	Number of rainy days, .10 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.			
<i>Washington—Cont'd.</i>																					
North Yakima.	Yakima.	1,070	1	32.0		48	5	17	21	20	0.71		0.28	3.6	5	6	6	19	nw.	Albert Bender.	
Nutland.	Klickitat.	1	37.6			53	7	20	17	23	0.92		0.27	3.0	9					Ruth J. Shepard.	
Odessa.	Lincoln.	1,540	7																Wm. N. Neely.		
Olga.	San Juan.	50	20	43.1	+ 1.5	52	24	33	27	18	6.95	+ 2.14	1.46	T.	16	5	5	21	se.	Cecil S. Willis.	
Olympia.	Thurston.	200	32	41.8	+ 0.8	54	7	28	13	19	7.71	- 1.97	0.94	0.0	19	6	5	20	sw.	M. O'Conor.	
Ornak.	Okanogan.	850	1	32.3		49	5	9	30	30	1.27		0.28	1.5	7				w.	Wm. G. Tait.	
Oroville.	do.	923	1																Fred. J. Fine.		
Peola.	Garfield.	5,000	1																Samuel Gruell, sr.		
Pomeroy.	do.	1,500	18	36.3	+ 0.9	50	24	25	25	15	0.51	- 1.72	0.20	1.0	6	4	9	18	w.	Peter McClung.	
Port Crescent.	Clallam.	259	15	40.3	+ 2.0	51	8	29	27	17	7.46	+ 0.58	1.66	T.	20	0	10	21	s.	U. S. Weather Bureau.	
Port Townsend.	Jefferson.	80	30	43.3	+ 2.1	52	11	33	10	11	2.47	- 0.21	0.38	0.0	16	7	2	22	se.	F. Plummer.	
Pullman.	Whitman.	2,550	18	33.4	+ 1.3	51	2	24	21†	19*	2.24	- 0.69	0.70	4.0	10	4	9	18	se.	State Agricultural College.	
Quinalt.	Chehalis.	300	3																A. V. Higley.		
Republic.	Ferry.	2,628	10	27.5	+ 1.4	42	8	6	25	22	1.34		0.35	0.0	9	4	4	23	nw.	George B. Stocking.	
Rex Creek.	Chelan.	1,135	3	35.9		50	28	29	11†	15†	2.80			11.5	2†	1†	1†	18	nw.	Jas. W. Nicol.	
Ritzville.	Adams.	1,825	11																Agent N. P. Ry.		
Rock Lake.	Whitman.	1,910	4	34.0		47	6	23	22†	22*	1.64		0.60	2.5	6	7	7	17	sw.	P. M. Ramsey.	
Rossala.	do.	2,425	18	33.8	+ 2.4	48	23	21†	16	15	- 1.50	- 0.94	0.26	3.0	11	3	5	18	w.	Hans Mum.	
Russells Ranch.	Yakima.	2,870	1																Miss Maggie M. Russell.		
Seattle.	King.	123	19	42.8	+ 1.6	57	2	32	31	14	3.47	- 2.57	0.55	T.	17	1	6	24	se.	U. S. Weather Bureau.	
Sedro-Woolley.	Skagit.	38	13	40.9	+ 0.3	55	1	27	13	19	8.25	+ 2.89	1.70	1.5	23	5	8	18	sw.	Mrs. H. L. Devin.	
Sixprong.	Klickitat.	1,240	3	36.5		50	4	20	17	16	0.79		0.18	1.5	10	5	4	22	sw.	C. E. Comstock.	
Skagit Power Dam.	Whatcom.	37.2		46	1†	30	18†	12	9.56		1.20	6.0	0.21	7	5	5	19	sw.	Skagit Power Co.		
Snohomish.	Snohomish.	100	16	40.7	+ 0.2	55	1†	26	10†	24	5.51	- 0.74	1.02	2.0	23	4	2	23	se.	Warren Hodge.	
Snoqualmie Falls.	King.	667	11	40.8		54	19	27	11	22	5.96	- 1.59	0.90	0.0	22	6	0	25	sw.	O. N. Wiswell.	
Snoqualmie Pass.	Kittitas.	3,000																	C. E. Ingraham.		
Snyders Ranch.	Okanogan.	2,200	1	43.2	0.0	55	2†	30	19†	11.41	- 2.91	1.79	0.0	23	4	11	16	w.	George M. Snyder.		
South Bend.	Pacific.	29	29	43.2	+ 3.4	48	5	23	31	14	1.50	- 1.12	0.36	2.4	11	5	4	22	sw.	Miss Winifred Eichner.	
Spokane.	Spokane.	1,943	1	41.6		54	2	31	10	13	3.57		0.34	0.0	20	5	1	22	se.	U. S. Weather Bureau.	
State University.	King.																	University of Washington.			
Stokes Ranch.	Okanogan.	2,670	1															nw.	Chas. W. Gunn.		
Sullivan Lake.	Stevens.	2,700																	U. S. Forest Ranger.		
Sumner.	Pierce.	77	2	40.5		58	7	26	13	22	5.31		0.74	0.0	20	6	3	22	s.	D. W. Dorrance.	
Sunnyside.	Yakima.	740	15	35.4	+ 2.5	55	4	22	21†	25	0.68	- 0.16	0.19	2.5	9	2	12	17	e.	R. H. King.	
Tacoma.	Pierce.	213	24	41.8	+ 1.5	56	2	29	13	18	5.80	- 1.53	1.24	0.0	18	3	3	25	sw.	J. C. Wheeler.	
Tatoosh Island.	Clallam.	86	25	45.1	+ 1.2	54	19	36	22	13	12.25		2.83	T.	22	1	5	25	ne.	A. A. Quarnberg.	
Tieton.	Yakima.	2,000	1																Miss Gertrude McClintock.		
Touche.	Walla Walla.	556	3	38.1		56	5	24	10	29	0.73		0.15	T.	10	7	5	19	sw.	F. C. Koppen.	
Touche Ridge.	Columbia.	2,500	1																Do.	U. S. Reclamation Service.	
Trinidad.	Douglas.	900	6	32.5		48	9	17	25	19	1.72		0.40	10.0	8	7	3	21	sw.	D. W. Dorrance.	
Vancouver.	Clarke.	100	35	41.6	+ 2.9	55	5†	27	13	23	3.59	- 3.03	0.19	1.20	0.0	22	6	1	24	s.	R. H. King.
Vashon Island.	King.	49	21	42.2	+ 1.3	55	1	30	31	14	5.74	- 1.39	1.12	0.0	22	6	1	24	s.	A. A. Pitcher.	
Walnuk.	Grant.	410	6																Rollin J. Reeves.		
Wallace.	Okanogan.	4,000	1																L. F. Williams.		
Wallula.	Walla Walla.	1,000	26	38.4	+ 2.4	56	23	27	22	23	0.63	- 1.47	0.20	0.7	10	2	8	23	s.	M. W. Zindel.	
Waterville.	Douglas.	2,624	28	34.9	- 0.9	41	9	6	22	26	0.98	- 0.99	0.32	9.8	5	11	1	19	w.	F. M. French.	
Wenatchee (near).	Chelan.	1,169	11	30.8	+ 2.9	40	28	15	22	22	0.96	- 1.30	0.25	10.5	7	7	7	17	w.	G. G. Eubanks.	
Wilbur.	Lincoln.	2,203	11	29.8	+ 2.3	40	4†	11	27	25	1.12	- 1.02	0.40	2.5	7	1	23	sw.	Irving Club.		
Yale.	Cowlitz.	375	3	42.4		60	15	22	22	18	10.09		1.20	T.	21	5	9	17	e.	U. S. Weather Bureau.	
Zindel.	Asotin.	715	8	39.3		54	20	24	24	29	0.40		0.40	T.	1	5	17	9	n.	John O. Bozorth.	
<i>Oregon.</i>																			E. L. Kirk.		
Albany.	Linn.	212	30	42.1	+ 1.3	57	7	26	19	23	3.89	- 3.53	0.68	0.0	19	3	5	23	s.	Wm. Harris.	
Ashland.	Jackson.	1,963	28	39.2	- 0.2	64	1	24	20†	18	2.52	- 0.73	0.90	0.0	10	3	13	15	w.	Geo. W. Long.	
Astoria.	Clatsop.	16	51	44.7	+ 0.3	51	7	33	11†	16	10.90	- 1.31	1.03	0.0	25	6	7	18	sw.	J. C. Welcome, Jr.	
Baker.	Baker.	3,466	21																Val. W. Tomkins.		
Bay City.	Tillamook.	14	17	45.6	+ 0.8	60	19	28	10	25	7.40	- 8.44	1.10	0.0	25	5	5	21	se.	Alf. Drill.	
Bend.	Crook.	3,629	29																John C. Green.		
Black Butte.	Lane.	1,200	10	38.1	- 1.0	50	1	25	19	18	6.75	- 0.11	1.55	0.0	16	4	12	15	nw.	C. H. Williams.	
Blalock.	Gilliam.	237	13	39.5	+ 2.3	52	9	31	17†	17	0.92	- 0.70	0.28	T.	7	2	6	23	e.	O. R. Hopewell.	
Burns.	Harney.	4,157	20	26.6	+ 1.0	50	2	20	31	23	1.27	+ 0.05	0.48	17.0	5	24	4	3	sw.	George A. Pitcher.	
Cascade Locks.	Hood River.	100	21	40.0	+ 1.5	49	8†	30	20	12	9.51	- 7.05	1.32	0.0	22	7	1	23	sw.	L. F. Williams.	
Cazadero.	Clackamas.	503	2	41.8		55	5†	25	19	30	5.88		1.10	0.0	24	3	5	23	sw.	Carl F. Troedson.	
Christmas Lake.	Lake.	4,300	4	30.6		53	1	3	22	33	0.86		0.25	2.0	8	4	9	18	sw.	F. L. Barker.	
Condon.	Gilliam.	2,884	4	38.2		57	1	29	29†	28	1.30		0.33	0.5	7	15	9	7	sw.	Wm. Betts.	
Corvallis.	Benton.	266	23	39.0	- 2.0	55	7	26	19	20	4.33	- 2.59	0.54	0.0	15	3	7	21	sw.	Oregon Agricultural College.	
Dayville.	Grant.	2,200	17	37.0	- 4.0	61	1	21	20	27	0.57	- 0.78	0.28	T.	9	14	5	12	se.	Dr. J. Campbell-Martin.	
Deadwood.	Lane.	350	1	43.7		54	7†	31	20	17	11.17		1.60	0.0	21	5	9	17	sw.	Jos. Semmens.	
Doraville.	Columbia.	600	10	40.0		52	7	27	11†	21	5.35		0.72	0.4	26	3	3	25	sw.	Joe's Hackenberg.	
Drain.	Douglas.	300	9	43.6		60	7	32	10	21	5.22		1.12	0.0	22	1	2	22	sw.	Ira Wimberly.	
Echo.	Umatilla.	625	7	37.8		57	24	25	12	23	0.77		0.25	1.5	7	5	7	19	n.	R. B. Stanfield.	
Ella.	Morrow.	830	7	37.2		53	9	23	19	20	0.67		0.42								

TABLE 1.—*Climatological data for December, 1910. District No. 12—Continued.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmeasured.	Number of rainy days, .01 inch or more.	Number of partly cloudy days.	Number of cloudy days.		
Oregon—Continued.																			
Marshfield.		12	10	46.0		63	1	27	26	30	6.52		0.90	0.0	25	7	12	nw.	
Merrill.	Klamath.	4,070	5	33.6		50	6	15	26†	29	2.30		1.20	T.	4	12	7	...	
Mikkalo.	Gilliam.	1,400	5	36.2		54	33	17	16	20	1.15		0.35	2.0	8	3	20	w.	
Miramonte Farm.	Clackamas.	195	23	41.4	+ 1.2	55	27	26	20	18	3.93	- 2.32	0.43	0.0	20	2	22	s.	
Monroe.	Benton.	350	14	43.2	+ 2.1	56	2	27	21	22	4.98	- 3.06	0.83	0.0	11	4	2	25	sw.
Mount Angel.	Marion.	485	25								5.48	- 1.89	0.80	0.0	17	5	9	17	sw.
Mountain Park.	Hood River.	1,440	5	37.4		49	23	26	21	17	6.16		1.00	3.5	16	0	1	30	w.
Musick.	Douglas.	5,000	2	35.4		55	19	20	28	21	14.89		2.65	81.0	20	10	1	21	sw.
Newport.	Lincoln.	69	24	47.6	+ 1.2	60	19	34	10†	20	5.41	- 5.11	0.57	0.0	22	5	9	17	nw.
Paisley.	Lake.	4,500	8																
Pendleton.	Umatilla.	1,070	22	40.0	+ 3.8	57	23†	30	4	25	0.81	- 0.73	0.33	0.2	10	5	9	17	sw.
Pilot Rock.	do.	1,817	3	35.6		58	22	22	15	26	1.37		0.55	2.5	8	13	0	18	sw.
Pompeii.	Clackamas.	3,879	16	33.3	+ 0.6	51	13	18	22	21	10.97	- 0.61	1.38	61.0	22	6	4	21	e.
Portland.	Multnomah.	57	41	42.9	+ 1.4	56	5	31	20	13	3.53	- 3.58	0.45	0.0	18	2	7	22	se.
"P" Ranch.	Harney.	4,100																	
Prineville.	Crook.	2,864	15	34.4	- 1.6	60	1	12	20	32	1.34	+ 0.32	0.60	0.0	6	16	8	7	...
Prospect.	Jackson.	2,800	5																
Ramsey.	Wasco.	1,350	10	32.7		53	23	14	17	25	1.12		0.25	7.4	9	7	2	22	w.
Range.	Grant.	3,500	3	33.8		60	13	20	2†	26	0.18		0.04	0.0	9	16	0	15	...
Richland.	Baker.	2,350	10	33.7	+ 5.6	47	7	19	22	19	0.60		0.35	0.5	2	6	3	22	...
Riverside.	Malheur.	3,000	12	30.4	+ 3.6	43	11	8	22	24	0.75	- 0.57	0.25	1.5	5	9	4	18	n.
Roseburg.	Douglas.	510	33	43.4	+ 1.4	60	1	31	27	20	3.10	- 2.91	1.07	0.0	9	11	18	s.	
Salem.	Marion.	120	21	43.2	+ 1.3	56	2	30	20	17	4.02	- 1.90	0.80	0.0	19	2	2	27	sw.
Siskiyou.	Jackson.	4,115	3	36.4		53	1	22	28	21	3.78		1.41	4.5	10	3	11	17	s.
Sparta.	Baker.	4,150	20																
Stafford.	Clackamas.	400	15	42.6	+ 1.9	63	2	28	20	29	4.49	- 2.76	0.55	0.0	22			sw.	
The Dalles.	Wasco.	112	37	39.4	+ 3.6	50	28	30	22	16	1.51	- 1.40	0.30	1.5	12	5	5	21	w.
Toledo.	Lincoln.	75	21	48.3	+ 3.9	60	24†	37	29†	22	7.75	- 2.62	1.50	0.0	13	11	14	6	sw.
Umatilla.	Umatilla.	340	23	38.2	+ 3.4	51	28	35	21	20	0.67	- 0.42	0.20	T.	9	6	6	19	w.
Vale.	Malheur.	2,242	19	34.1	+ 4.8	47	25	19	22	24	0.92	- 0.29	0.23	0.0	10	7	9	15	nw.
Van.	Harney.	3,506	6																
Wallace Orchard.	Polk.	170	2	42.2		56	7	28	18†	21	4.57		0.58	0.0	17	3	9	19	...
Wallowa.	Wallowa.	2,935	8	31.6		46	9	19	26†	19	1.12		0.19	5.3	8	1	2	28	se.
Wasco.	Sherman.	1,263	4	40.0		59	13	30	6†	21	0.98		0.30	3.0	7	4	12	15	w.
Warm Springs.	Crook.	1,500	9	34.9		59	22†	21	27	36	0.63		0.30	0.0	4	7	6	18	nw.
Weston.	Umatilla.	1,800	19	38.7	+ 2.8	57	2†	25	19†	27	1.42	- 1.27	0.38	1.5	8	0	5	26	se.
Williams.	Josephine.	1,368	19	39.4	- 0.2	60	4	23	25	22	2.86	- 2.87	1.08	10.0	8	8	0	5	n.
Yonma.	Klamath.	4,146	4	32.4		51	15	7	28	34	1.86		0.40	0.5	8	7	15	9	s.

*, b, c, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

* Precipitation included in that of the next measurement.

** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.

† Also on other dates.

‡ Separate dates of falls not recorded.

§ Data are from standard instruments not supplied by the U. S. Weather Bureau.

\$ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

Estimated by observer.

|| Precipitation for the 24 hours ending on the morning when it is measured.

T Precipitation is less than 0.01 inch rain or melted snow.

U. S. Weather Bureau.
Mrs. Agnes Ritchson.
Frank Little.
G. Muecke.
L. A. Peek.
Dr. Urban Fisher, O. S. B.
Raymond Markley.
Alex. Lundberg.
Wm. Matthews.
E. C. Woodward.
E. F. Averill.
John P. McManus.
O. C. Yocom.
U. S. Weather Bureau.
J. P. Jefferson.
Geo. Whitels.
E. T. Graham.
Mrs. Iva B. Collins.
Mrs. Emma Arbuckle.
L. G. Morgan.
Mrs. Leah Fairman.
U. S. Weather Bureau.
M. P. Baldwin.
Mrs. Anna Pearson.
Jos. A. Wright.
John P. Gage.
S. L. Brooks.
C. B. Crosno.
Mrs. Helen T. Duncan.
H. P. Osborne.
Geo. Howe.
Chas. A. Park.
L. J. Coverstone.
J. R. Howell.
Claude C. Covey.
M. A. Baker.
J. D. Dixon.
Jacob Ruecke.

TABLE 2.—*Daily precipitation for December, 1910. District No. 12, Columbia Valley.*

Stations.	River basins.	Day of month.																													Total.			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
<i>Montana.</i>																																		
Anaconda.	Missoula		*	.16				T.	T.													T.	.09	T.	.11		T.	.05	T.		.04	0.25		
Bison Mountain.	do.		.37							T.												T.	.06	T.	.08	T.	.09	T.	.08	0.88				
Butte.	do.		.30																			T.	T.	T.	T.	T.	T.	T.		0.30				
Columbia Falls.	Flathead																																	
Como.	Bitter Root	.05	.34																													0.48		
Dayton.	Flathead																																	
East Anaconda.	Missoula		.10	.02				T.	.02	T.												T.		T.	T.	T.	T.	T.	T.	T.	0.22			
Fortine.	Flathead	T.	.01	.20		.03	.04		.02	T.												T.		T.	T.	T.	T.	T.	T.	T.	0.38			
Hamilton.	Bitter Root																																	
Hat Creek.	Missoula	.02	.02	.16				T.	.02	.01												T.	.04	.24	T.	T.	.04	T.	.01	T.	0.49			
Kalispell.	Flathead	.01	.04	.13		.02		T.	.02	.01												T.		T.	T.	T.	T.	T.	T.	T.	0.52			
Lost Creek.	Missoula		T.	T.																														
McGinnis Meadows.	Kootenai																																	
Missoula.	Missoula		.06	.06	T.		.04	T.	.06																									
Ophir.	do.	T.	.25	T.	T.																													
Ovando.	do.		.20																															
Philipsburg.	do.																																	
Plains.	Columbia		T.																															
Pleasant Valley.	Kootenai	.04	.18		.03	.04		.11																										
Polson.	Flathead																																	
St. Ignatius.	do.																																	
St. Regis.	Missoula	.55	.40		.34	.06	.10	T.	.29	.35																								
Saltsees.	do.		.23	.20																														
Snowshoe.	Kootenai																																	
Troy.	Wyoming.	Missoula		T.																														
Willow Glen Stock Farm.																																		
<i>Wyoming.</i>																																		
Afton.	Snake		.18	.20				.15		.13	.03	.04	.15																			0.93		
Alta.	do.		.14	.80				T.	.35	.12	.11	.11																				2.11		
Bedford.	do.		.09	T.						.45	.18	.10	.20																			1.38		
Snake River.	do.		.30	.70				T.	T.	.50	T.	T.	.30																			3.20		
<i>Nevada.</i>																																		
San Jacinto.	Snake	.04																															0.44	
<i>Utah.</i>																																		
Standrod.	Raft.	.05	.14																														0.86	
<i>Idaho.</i>																																		
Albion.	Upper Snake		.12	.05				T.		.09	T.	.10																				1.01		
Almo.	do.																																	
American Falls.	do.																																	
Blackfoot.	do.	T.	.35					T.	.18	T.	.08	.15									T.	.07									0.83			
Blackfoot Dam.	do.		.19	.06					.07	T.	.20	.12	.07	.18							T.	.03									1.05			
Book's Ranch.	Boise		.42	.69				T.	.14	.42	.08	.24									T.	.02									2.10			
Bogus Creek.	Payette																																	
Boise.	Boise		.69	.01		T.	.01	.20	.09	.03	.05										T.	.01	T.	.67	.12		.05				1.13			
Bonners Ferry.	Upper Columbia	.12	.21	.25	.08				.25												T.	T.									2.22			
Boulder Mine.	Boise		.54	.57					.77		.11	.02									T.	T.									2.71			
Buhl.	Upper Snake		.20	.10					.30		.10										T.													
Burke.	Upper Columbia																																	
Caldwell.	Boise		T.	.10	.01				.20	.07	.10	.07									T.										0.61			
Camas.	Lost R. Region																																	
Cambridge.	Middle Snake	.78	.20					.11	.20																							1.39		
Cedar Creek Dam.	Upper Snake																																	
Chesterfield.	do.		.23																														0.07	
Coeur d'Alene.	Upper Columbia																																	
Cottonwood Creek.	Boise																																	
Crawford.	Payette																																0.45	
Culdesac.	Clearwater																																	
Deary.	do.		.51					.07		.13		.25																						
Dent.	do.	T.	.40																														2.10	
Driggs.	Upper Snake							T.		.13																						1.48		
Edie.	Lost R. Region																															0.31		
Edwardsburg.	Salmon																																	
Emmett.	Payette		.42	.04					.10	.04	.06	.03																				.01	0.70	
Flowers.	Wood-Malad																																	
Forney.	Salmon																																	0.45
Garden Valley.	Payette		.15	T.					.35	.10	T.	.48	.02																					

TABLE 2.—*Daily precipitation for December, 1910. District No. 12—Continued.*

TABLE 2.—*Daily precipitation for December, 1910. District No. 12—Continued.*

Stations.	River basins.	Day of month.																																	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total		
Washington—Cont'd.																																			
Peola	Snake																																		1.98
Pomeroy	do																																	0.51	
Port Crescent	Coast																																	7.46	
Port Townsend	Puget Sound																																	2.47	
Pulman	Palouse																																	2.24	
Quinalt	Coast																																		
Republic	Kettle																																	1.34	
Rex Creek	Columbia																																	2.80	
Ritzville	do																																		
Rock Lake	Palouse																																	1.64	
Rosalia	do																																	1.50	
Russell's Ranch	Yakima																																	2.09	
Seattle	Puget Sound																																	3.47	
Sedro Woolley	do																																	8.25	
Sixprong	Columbia																																	0.79	
Skagit Power Dam	Puget Sound																																	9.56	
Snohomish	do																																	20.51	
Snoqualmie	Yakima																																	5.96	
Snoqualmie Pass	Columbia	T	07	12	10	T	T	30																									1.27		
Snyder's Ranch	Coast																																	1.50	
South Bend	Spokane																																	1.50	
Spokane	Puget Sound																																	3.57	
State University	Columbia																																	1.49	
Stoke's Ranch	Puget Sound																																	1.25	
Sullivan Lake	Columbia		19	08	12	19	T	06	13	18																						1.71			
Pend Oreille																																		0.73	
Summer	Puget Sound																																	3.91	
Sunnyside	Yakima																																	4.00	
Tacoma	Puget Sound																																	5.31	
Tatoosh Island	Coast																																	5.80	
Triton	Yakima																																	12.25	
Touchet	Columbia																																	1.71	
Touchet Ridge	do																																	0.73	
Trinidad	Yakima																																	3.91	
Twin Sister Lakes	do																																	1.72	
Upper Clealum Valley	Yakima																																	3.59	
Vancouver	Columbia																																	5.74	
Vashon Island	Puget Sound																																	1.19	
Wahluke	Columbia																																	0.63	
Wallace	Okanogan																																	0.98	
Walla Walla	Columbia																																	0.96	
Waterville	do																																	1.12	
Wenatchee, near	do																																	10.09	
Wilbur	do																																	0.40	
Yale	Snake	T	40																																0.40
Oregon																																			
Albany	Willamette																																	3.89	
Ans River	SE. Drainage	T																																0.12	
Ashland	Rogue	T	90	36	18	12	24	26	60	02	T																						2.52		
Astoria	Columbia		29	86	36	18	63	84	25	50	07																					1.43			
Bagley's Ranch	Snake			27																													0.43		
Baker City	Coast																																	1.40	
Bear Creek	Deschutes																																	0.67	
Bear Valley	John Day	T	20	30	10	12	16	19	32	17	30	08																			2.45				
Beech Creek	do																																1.43		
Belefountain	Willamette																																0.99		
Bend	Deschutes																																1.95		
Big Basin	do																																0.86		
Birch Creek	Willamette																																0.86		
Black Butte	Columbia																																6.75		
Blalock	Umatilla																																4.21		
Blue Mtn. Saw Mill	Umatilla																																1.27		
Buena Vista	Snake																																0.26		
Burns	SE. Drainage																																0.26		
Butte Falls	Rogue	T	60	02	03	04	50	30	34																							0.88			
California Gulch	Umatilla																																1.02		
Canyon City	do																																0.51		
Cascade Locks	Columbia																																5.35		
Cascadia	Willamette																																9.51		
Cazadero	do																																7.05		
Christmas Lake	SE. Drainage																																0.86		
Columbia Mine	Snake																																		

TABLE 2.—*Daily precipitation for December, 1910. District No. 12—Continued.*

TABLE 3.—Maximum and minimum temperatures at selected stations for December, 1910. District No. 12, Columbia Valley.

Date.	Montana.												Idaho.																										
	Kalispel.			Missoula.			Afton, Wyo.			Boise.			Bonners Ferry.			Hot Spring.			Lewiston.			Mackay &			Meadows.			Pocatello.			Salmon.			Shoshone.			Vernon.		
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.					
1...	34	30	32	22	37	7	35	30	38	26	50	32	49	34	47	13	38	25	51	28	37	28	50	29	47	21	41	30	30	42	33	41	30						
2...	36	31	34	22	35	15	38	31	38	20	40	30	45	35	40	20	35	24	51	35	34	21	40	30	35	23	42	33	35	23	41	34	34	29					
3...	36	33	38	24	43	30	50	40	40	32	50	35	49	41	41	20	36	30	45	39	33	21	45	34	35	29	41	34	35	29	41	34	34	33					
4...	42	30	38	32	40	24	44	35	41	30	54	34	48	34	35	19	35	26	40	32	32	22	41	30	36	23	41	33	33	23	41	33	33	30					
5...	34	24	39	26	40	23	50	32	36	26	50	32	48	34	34	14	37	21	46	30	31	10	41	25	35	19	41	33	33	21	41	33	30						
6...	38	27	33	14	31	6	39	29	38	30	48	30	40	32	28	6	38	20	38	21	17	2	41	25	28	10	38	29	38	19	36	29							
7...	33	26	32	18	36	20	45	29	38	30	50	27	47	35	42	10	33	22	45	27	32	12	42	24	38	19	36	29	38	19	36	29							
8...	37	27	34	13	40	16	47	30	39	30	45	30	46	34	37	10	33	22	49	24	24	2	40	25	38	12	38	20	38	12	38	20							
9...	39	30	38	31	45	29	40	34	46	28	47	38	51	32	34	13	28	16	44	34	30	16	43	34	34	30	39	32	34	30	39	32							
10...	33	19	33	11	32	16	40	34	40	20	41	37	40	26	36	15	23	36	32	23	10	45	30	33	22	34	21	34	21	34	21								
11...	27	17	29	9	34	24	42	36	30	11	40	37	40	31	37	18	36	19	38	33	24	3	40	34	35	30	37	23	37	23	37	23							
12...	37	23	33	11	37	25	40	30	43	25	43	38	41	28	39	21	33	17	41	31	24	5	40	34	36	25	38	28	32	33	32	32							
13...	36	19	34	7	27	6	44	32	36	24	45	40	47	31	37	10	28	15	38	25	20	7	38	30	32	25	38	28	32	25	38	28							
14...	26	20	26	2	25	4	36	28	32	25	44	30	45	30	38	23	27	10	38	24	16	7	38	24	24	22	38	22	38	22	38	22							
15...	26	20	22	2	33	10	38	28	30	20	38	30	36	19	35	5	25	7	35	24	11	1	40	23	30	7	29	17	38	17	38	17							
16...	32	25	26	8	25	8	38	27	35	25	43	29	41	25	29	4	25	9	35	21	12	2	36	20	30	5	39	15	32	10	34	32							
17...	32	28	28	13	24	4	39	30	38	25	44	30	38	34	40	7	34	13	32	18	15	10	36	18	35	8	34	32	35	24	33	23							
18...	35	24	28	8	20	8	35	31	36	28	46	28	39	35	39	10	29	12	26	23	17	12	40	24	27	5	33	23	32	23	32	23							
19...	29	17	26	6	26	3	34	31	35	29	44	29	36	34	43	9	25	11	32	22	12	3	38	23	32	3	29	18	32	23	32	18							
20...	26	22	23	3	26	4	31	28	34	26	31	25	34	32	42	10	24	9	33	20	15	11	32	17	39	15	26	19	32	23	32	19							
21...	37	24	36	9	26	10	38	26	38	22	41	25	37	28	30	12	31	6	29	23	22	8	34	24	26	14	31	26	31	26	31	26							
22...	29	18	36	23	26	6	36	22	35	21	36	21	36	27	25	4	25	1	34	23	27	5	34	24	26	7	34	26	34	25	34	26							
23...	35	26	39	26	25	6	44	32	39	30	47	32	47	35	28	5	35	21	38	28	27	7	40	25	28	13	39	29	39	25	39	29							
24...	40	29	40	28	35	20	42	31	37	25	46	34	45	34	34	0	36	20	40	27	34	6	45	38	39	20	39	21	38	20	39	21							
25...	37	29	35	23	25	1	40	26	34	25	48	36	36	31	30	6	32	18	32	17	26	3	38	13	20	2	33	21	33	21	33	21							
26...	39	31	38	28	16	-14	41	26	35	29	38	20	44	29	32	8	30	8	35	18	25	0	32	15	25	27	12	37	31	35	30								
27...	33	30	38	19	19	-11	36	29	40	24	28	26	46	36	32	2	35	22	24	16	24	4	34	12	27	19	35	30	35	30									
28...	40	29	39	26	21	7	39	25	42	20	41	24	41	31	30	2	29	16	32	24	28	3	35	20	27	19	40	26	34	20									
29...	34	27	34	17	31	11	44	26	38	35	42	28	44	28	34	0	33	13	37	23	28	0	35	14	29	20	40	19	34	20									
30...	36	26	37	27	30	13	39	29	40	31	42	34	47	37	30	2	35	25	34	28	38	14	36	14	30	20	36	30	36	30									
31...	30	5	31	23	25	12	33	25	39	15	37	20	39	27	1	28	13	28	17	36	10	34	18	26	17	31	22	31	22										
Mns...	34.3	24.7	33.3	17.1	29.9	8.3	39.9	29.6	37.4	25.5	43.6	30.4	42.6	31.9	35.3*	9.5	31.8	16.5	37.5	25.4	25.3	4.4	38.9*	24.1*	31.5	15.7	35.7	26.5											

Washington.

MONTHLY WEATHER REVIEW.

DECEMBER, 1910

TABLE 3.—*Maximum and minimum temperatures at selected stations for December, 1910.* District No. 12—Continued.